



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/812,442

03/30/2004

Lawrence J. Feroli

EMC04-03

3381

47653

7590

08/13/2007

DAVID E. HUANG, ESQ.

BAINWOOD HUANG AND ASSOCIATES LLC

2 CONNECTOR ROAD

WESTBOROUGH, MA 01581

EXAMINER

WRIGHT, INGRID D

ART UNIT

PAPER NUMBER

2835

MAIL DATE

DELIVERY MODE

08/13/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/812,442

Applicant(s)

FEROLI ET AL.

Examiner

Ingrid Wright

Art Unit

2835

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5-8,10,13-16,18,19,26,29,30 and 33-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-8,10,13-16,18,19,26,29,30 and 33-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date: _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date: _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,2,5-8,10,13-16,18,19,26,29,30 & 33-41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Lieu et al. US 6737582 B2 (hereinafter: "Van Lieu") in view of Tsuji et al. US 5525074 (hereinafter "Tsuji").

Claim 1, Van Lieu teaches a data storage system comprising: a frame (12); operating circuitry (inherent) supported by the frame (12); and a power subsystem (30,32,34) configured to power the operating circuitry, the power subsystem including (i) a power supply (18) configured to be supported by the frame (12), and (ii) a power cord assembly (20,32) for connecting a power supply (18) to a power source (34), the power cord assembly having a power cord (20) which includes a first plug (30) and an additional plug (19) configured to connect the power supply (18), and suggests a second plug (e.g. at location of (34)) configured to connect to the power source (34), and a cable (32) capable of being interconnected between the first and second plugs (19,30), and a device supporting the first plug (30) within the frame (12) and a device (10) supporting the plug (30), but is silent as to the device being configured to fasten the a plug (30) to the frame (12). Tsuji et al. teaches a device (45) (Abstract of Tsuji) configured to fasten a plug (41) to a frame (P), the device including a body (45) configured to attach to an installation location of the frame (P) and substantially hold the plug (41) at the installation location of the frame for connecting/disconnecting the plug (4), the body (45) including: a first end wall (fig. 3), a second end wall (fig. 3), and lateral walls (fig. 3) which connect the first end wall and the second end wall

Art Unit: 2835

together; wherein, when the body (e.g. body of (45)) substantially holds the plug (41) at the installation location of the frame (P) and when the body is attached to the installation location of the frame (i) the first end wall is configured to restrain the plug (41) in a positive Zdirection relative to the frame (ii) the second end wall is configured to restrain the first plug in a negative Zdirection relative to the frame, the negative Zdirection being opposite to the positive Z-direction along a Z axis and (iii) the lateral walls are configured to register the plug (41) relative to the frame in an X Y plane which is perpendicular to the Zaxis; wherein the plug (41) of the power cord and the body of the device (45) are separate components the body of the device being configured to capture the plug (41) in an interference fit manner and present a physical connection interface of the first plug or direct physical mating between the physical connection interface of the first plug and a component when the device (45) fastens the plug (41) to the frame (P), and teaches an additional plug (3) separate from an additional body of a device (9), in the prior art of fig. 1A of Tsuji), in order to repeatedly mount a connector (small) in a mounting space, providing a secure attachment, via a strong locking force to a panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the device (45) over the configuration of Van Lieu, in order to provide a compatible and common (well known in the art) panel mounted connector capable of being repeatedly mounted in a mounting space and providing a secure attachment, via a strong locking force, further requiring a small amount of space (e.g. over the configuration of Van Lieu), to connect the plurality of electronic components with the frame or rack (12).

Claim 19, Van Lieu in view of Tsuji, teaches a body (45) and wherein the body (45) is capable of including: a first member and a second member which form the walls and which are configured to allow the first plug (41) and an additional plug (3) to become encapsulated when in an open position relative to each other, and encapsulate the first plug (41) and an additional plug (3) when in a closed position relative to each other; and wherein the first member defines a set of substantially 90 degree angles (fig. 4 of Tsuji), and wherein the second member is capable of defining a set of angles which are substantially

Art Unit: 2835

greater than 90 degrees to control rotational orientation of the first plug (41) and teaches an additional plug (3) relative to the first and second members, when the first plug and the additional plug (3) is encapsulated by the first and second members.

Note: Official Notice is taken in regards to connector bodies having first and second members, as Chandler et al. US Re 32760 teaches a body of a connector having first and second members (11,12).

Claim 29, Van Lieu in view of Tsuji teaches wherein the device (45) is configured to fasten the first plug (41) to the frame (P), and wherein the additional first plug (3) cannot be removed without also removing an additional device (9) from a frame.

Note: Official Notice is taken in regards to device/plug configurations wherein a plug cannot be removed, without first removing a device from a frame. LeMaster teaches a plug (16), which cannot be removed without first removing a device (32,26) from a frame (20) & Chandler et al. US Re 32760 teaches plug within a device (11,12), which cannot be removed, without first removing a device from a frame (fig 3,4).

Claim 30, Van lieu in view of Tsuji, teaches the body of the device (45) is capable of being configured to encapsulate power plugs having differing shapes (e.g. plugs having varied lengths).

Claim 40, Van Lieu in view of Tsuji, teaches a member of a body (45), wherein the body is capable of having a first member, which includes a first lateral wall of the lateral walls; and a second member, which includes a second lateral wall of the lateral walls; and the first plug (41) interposes between the first member and the second member.

Claim 2, Van Lieu teaches a power cord assembly (20,32) (Abstract of Van Lieu) for connecting a power supply (18) to a power source (34), the power cord assembly comprising: a power cord (20) having a first plug (30) and an additional plug (19) configured to connect to the power supply (18), and suggests a second plug (e.g. at location of (34)) configured to connect to the power source (34)) and a cable (32) interconnected between the first and second plugs; and a device (10) supporting the first plug (30) within

Art Unit: 2835

the frame (12), configured to support the power supply (18) and a device (10) supporting a plug (30), but is silent as to the device (10) fastening the first plug to a frame (12). Tsuji teaches a device for fastening a plug (41) a frame (P), the device including a body (45) configured to attach to an installation location of the frame (P) and substantially hold the plug (41) at the installation location of the frame when connecting/disconnecting from the plug the body (45) including: a first end wall (fig. 3 of Tsuji), a second end wall (fig. 3), and lateral walls (fig. 3) which connect the first end wall and the second end wall together; wherein, when the body (45) substantially holds the first plug (41) at the installation location of the frame (P) and when the body is attached to the installation location of the frame, (i) the first end wall is configured to restrain the plug (41) in a positive Z-direction relative to the frame, (ii) the second end wall is configured to restrain the first plug in a negative Z-direction relative to the frame, the negative Z-direction being opposite to the positive Z-direction along a Z-axis, and (iii) the lateral walls are configured to register the first plug (41) relative to the frame in an X-Y plane which is perpendicular to the Z-axis, wherein and teaches an additional plug (3) of a power cord and a body of the device (9), which are separate components (e.g. fig. 1A of Tsuji), the body of the device (9) being configured to capture the first plug (3) in an interference fit manner and present a physical connection interface of the first plug to a component for direct physical mating between the physical connection interface of the first plug (41) and an electronic component, when the device (45) fastens the first plug (41) to the frame (P), in order to repeatedly mount a connector (small) in a mounting space, providing a secure attachment, via a strong locking force. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the device (45) over the configuration of Van Lieu, in order to provide a compatible and common (well known in the art) panel mounted connector capable of being repeatedly mounted in a mounting space and providing a secure attachment, via a strong locking force, further requiring a smaller amount of space (e.g. over the configuration of Van Lieu), to connect the plurality of electronic components with the frame or rack (12).

Art Unit: 2835

Claim 5, Van Lieu in view of Tsuji, teaches a member (e.g. walls) of the body (45), wherein the body (45) is capable of including: a first member and a second member which are configured to allow the first plug (41) and an additional plug (3) (fig 1A) to become encapsulated when in an open position relative to each other, and encapsulate the first plug when in a closed position relative to each other.

Claim 6, Van Lieu in view of Tsuji, teaches wherein the first member (45) defines a set of substantially 90 degree angles (fig. 4 of Tsuji), and wherein the second member is capable of defining a set of angles which are substantially greater than 90 degrees to control rotational orientation of a plug with a different shape from the first plug (41) relative to the first and second members when the first plug is encapsulated by the first and second members.

Claim 7, Van Lieu in view of Tsuji, teaches wherein the first and second members (e.g. surfaces of (45)), define a set of open spaces (fig. 5C) adjacent the first plug, when the first plug (41) is encapsulated by the first and second members.

Claim 8, Van Lieu in view of Tsuji, teaches wherein the entire device capable of being formed of non-conductive material (e.g. most connectors are made of plastic).

Claim 31, Van Lieu in view of Tsuji, teaches wherein the body of the device is capable of being configured to encapsulate power plugs having differing shapes (e.g. various lengths).

Claim 32, Van Lieu in view of Tsuji, teaches wherein the first and second members (e.g. walls of (45)) are capable of being configured to encapsulate power plugs having differing shapes (e.g. various lengths).

Claim 38, Van Lieu in view of Tsuji, teaches wherein the first member (e.g. walls of (45)) includes a first lateral wall of the lateral walls; the second member (e.g. walls of (45)) includes a second lateral wall of the lateral walls; and the first plug (41) interposes between the first member and the second member when the first and second members are in a closed position relative to each other and encapsulate the first plug (41) and teaches an additional plug (3) encapsulated by an additional member of a device (9) (fig. 1A of Tsuji).

Art Unit: 2835

Claim 10, Van Lieu teaches a device (10) for supporting a plug (30) of a power cord (32) to a frame (12) which is configured to support a power supply (18), the device (10) comprising: a body configured to attach to an installation location of the frame (12) and substantially hold the plug (30) at the installation location of the frame when the power supply connects with and disconnects from the plug, but is silent as to the device fastening the plug to the frame. Tsuji teaches a device (45), which fastens a plug (41) to a frame (P), the body, of the device (45,) including: a first end wall, a second end wall, and lateral walls (fig. 3 of Tsuji), which connect the first end wall and the second end wall together; wherein, when the body substantially holds the plug (41) at the installation location of the frame (P) and when the body (45) is attached to the installation location of the frame (P), (i) the first end wall is configured to restrain the plug (41) in a positive Z-direction relative to the frame, (ii) the second end wall is configured to restrain the plug (41) in a negative Z-direction relative to the frame, the negative Z-direction being opposite to the positive Z-direction along a Z-axis, and (iii) the lateral walls are configured to register the plug (41) relative to the frame in an X-Y plane which is perpendicular to the Z-axis; and teaches an additional plug (3) separate from an additional body of a an additional device (9) (fig. 1A), wherein the body of the device (45) (or the additional device (3)) is configured to capture the plug (41) in an interference fit manner and present a physical connection interface of the plug, for direct physical mating between the physical connection interface of the plug (41) and any electronic component when the device (45) fastens the plug (41) to the frame (P), in order to repeatedly mount a connector (small) in a mounting space, providing a secure attachment, via a strong locking force to a panel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the device (45) over the configuration of Van Lieu, in order to provide a compatible and common (well known in the art) panel mounted connector capable of being repeatedly mounted in a mounting space and providing a secure attachment, via a strong locking force, further requiring a smaller amount of space (e.g. configuration of Van Lieu), to connect the plurality of electronic components with the frame or rack (12).

Art Unit: 2835

Claim 13, Van Lieu in view of Tsuji, teaches a member of the body (45), and wherein the body (45) is capable of including: a first member and a second member which are configured to allow the plug (41) to become encapsulated when in an open position relative to each other, and encapsulate the plug when in a closed position relative to each other.

Note: Official Notice is taken in regards to connector bodies having first and second members, as Chandler et al. US Re 32760 teaches a body of a connector having first and second members (11,12).

Claim 29, Van Lieu in view of Tsuji teaches wherein the device (45) is configured to fasten the first plug (41) to the frame (P), and wherein the additional first plug (3) cannot be removed without also removing an additional device (9) from a frame.

Claim 14, Van Lieu in view of Tsuji, teaches wherein the first member (45) defines a set of substantially 90 degree angles (fig. 4 of Tsuji), and wherein the second member is capable of defining a set of angles which are substantially greater than 90 degrees to control rotational orientation of the plug relative to the first and second members when the plug is encapsulated by the first and second members.

Claim 15, Van Lieu in view of Tsuji, teaches the member (45) is capable of comprising first and second members, wherein the members define a set of open spaces (fig. 5C) of Tsuji) adjacent the plug when the plug (41) is encapsulated by the first and second members and teaches an additional plug (3) (fig. 1A of Tsuji) encapsulated in an open position and closed position.

Claim 16, Van Lieu in view of Tsuji, teaches wherein the entire device is capable of being formed of non-conductive material (e.g. most connectors are made of a plastic material).

Claim 33, Van Lieu in view of Tsuji, teaches wherein the body of the device (45) is capable of being configured to encapsulate power plugs having differing shapes (e.g. various lengths).

Claim 34, Van Lieu in view of Tsuji, teaches wherein the first and second members are configured to encapsulate power plugs having differing shapes (e.g. various lengths).

Claim 39, Van Lin in view of Tsuji, teaches wherein the first member (e.g. walls of (45)) includes a first lateral wall of the lateral walls; the second member includes a second lateral wall of the lateral walls; and the plug (41) interposes between the first member and the second member when the first and second members are in a closed position relative to each other and encapsulate the plug (41) and teaches an additional plug (3) encapsulated by an additional member of a device (9) (fig. 1A of Tsuji).

Regarding the method claims 18, 26,35,36,37 & 41, the method steps recited in the claims are inherently necessitated by the devices structure as taught by Van Lieu & Tsuji. Van Lieu & Tsuji disclosed a method for installing a power supply (18) into a data storage system (system within (12)), the method comprising: a device (10) supporting a plug (30) of a power cord (32); the device (45) attached (note: (45) is also fastened) to an installation location of a frame (P) of the data storage system; and a power supply (18) inserted into the frame (12) of the data storage system until the power supply (18) mates with the plug (41) of the power cord (32), the device (45) having a first end wall, a second end wall, and lateral walls which connect the first end wall and the second end wall together; wherein, when the device (45) substantially holds the plug (41) at the installation location of the frame (P) and when the device (45) is attached to the installation location of the frame (P), (i) the first end wall (fig. 3 of Tsuji) is configured to restrain the plug (41) in a positive Z-direction relative to the frame (P), (ii) the second end wall (fig. 3 of Tsuji) is configured to restrain the first-plug (41) in a negative Z-direction relative to the frame, the negative Z- direction being opposite to the positive Z-direction along a Z-axis, and (iii) the lateral walls (fig. 3 of Tsuji) are configured to register the first-plug (41) relative to the frame in an X-Y plane which is perpendicular to the Z-axis; wherein the plug (41) of the power cord (32) and the body of the device (45) are capable of being separate components, the body of the device (45) being configured to capture the plug (41) in an interference fit manner and present a physical connection interface of the plug (41) to the power supply (18) for direct physical mating between the physical connection interface of the first plug (41) and the power supply (18) when the device (45) fastens the plug (41) to the frame (P), and

Art Unit: 2835

wherein the body (45) is capable of including: a first member and a second member, which form the walls and which are configured to allow the plug (41) to become encapsulated when in an open position relative to each other, and encapsulate the plug (41) when in a closed position relative to each other; and wherein the first member (e.g. walls of (45)) defines a set of substantially 90 degree angles (fig. 4 of Tsuji), and wherein the second member (e.g. walls of (45)) is capable of defines a set of angles which are substantially greater than 90 degrees to control rotational orientation of the plug relative to the first and second members when the plug (41) is encapsulated by the first and second members, and wherein the device is attached to the installation location of the frame (P) of the data storage system comprises the plug (41) fastened of the power cord (32) to the frame (P) such that the plug (41) is capable of not being (e.g. also an additional plug (3) cannot be removed without removing (9), fig. 1A of Tsuji) removed from the frame without also removing the device (45) from the frame (P), and wherein the body of the device (45) is configured to encapsulate power plugs having differing shapes (e.g. various lengths) and wherein the frame (P) includes some form of a mounting element configured to support the power supply (18); and wherein the power supply (18) is inserted into the frame (P) of the data storage system further comprises the power supply slid into the frame (P) adjacent the mounting element such that the mounting element supports the power supply (18) and wherein the member of the body (45) is capable of including the first member (e.g. walls of (45)), which includes a first lateral wall of the lateral walls; the second member includes a second lateral wall of the lateral walls; and fastening the device to the plug of the power cord (32) includes interposing the plug (41) between the first member and the second member.

Response to Arguments

2. Applicant's arguments, filed 6/1/07, have been fully considered. The Applicant's Amendment has changed the scope of the claims and requires a new search. New prior art, Tsuji et al. US 525074 & Van Lieu et al. US 6737582 B2 will be utilized to meet the limitations of the Amendment. Thus, arguments

Art Unit: 2835

regarding prior art references of the previous Office Action, are moot in view of the new grounds of rejection.

Conclusion

3. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure: Chandler et al. US 4884981 shows the general state of the art regarding connectors with mating configurations.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ingrid Wright whose telephone number is (571)272-8392. The examiner can normally be reached on M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jayprakash Gandhi can be reached on (571)272-2800, ext 35. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

IDW

JN Gandhi
8/9/07
JAYPRAKASH GANDHI
SUPERVISORY PATENT EXAMINER